



PETROLEUM

Material Safety Data Sheet

VKB Petroleum

VKB Gear Oils PAO

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:

PRODUCT NAME: VKB GEAR OILS SYNTHETIC PAO

PRODUCT DESCRIPTION: SEMI-SYNTHETIC GEAR OIL

PRODUCT CODE: SO-PAO1

INTENDED USE: Gear Oil for Industrial machineries.

COMPANY IDENTIFICATION:

VKB PETROLEUM CO. WLL

Flat # 1, Building # 2226, Road # 5154, Block # 951

Askar, Bahrain

24 Hour Health Emergency

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Product Technical Information

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Supplier General Contact

(+973) 7741 2183

Email

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SECTION 2: HAZARDS IDENTIFICATION

OSHA Status: This product is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Physical Hazard: No Specific physical hazard.
Combustible under high temperature

Health Hazard: No adverse health hazard.
May cause irritation to sensitive skins
Not intended for human consumption

Environment Hazard: No Specific Environmental hazard.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Petroleum mineral oil lubricant base stock with proprietary performance additives mixtures

Name	CAS #	Concentration
Heavy Hydro treated Naphthenic Distillates (Petroleum) + Vegetable Oil	64742-52-5	90-98%
Additive Mixture	Proprietary	2-10%

This product does not contain known hazardous materials at the > 1% level or known carcinogens at the > 0.1% level as defined by 29 CFR 1910.1200

*Exact product composition has been withheld as a trade secret.

SECTION 4: FIRST AID MEASURES

- GENERAL ADVICE:** No specific first aid measures are required. If irritation persists, consult a medical specialist.
- EYE CONTACT:** In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention if irritation develops and persists.
- SKIN CONTACT:** Wash off immediately with soap and plenty of water while removing all contaminated clothing and shoes. Get medical attention if irritation or allergic reaction develops and persists.
- INHALATION:** In case of inhalation of decomposition of products in a fire, symptoms may be delayed. If inhaled, move to a ventilated place with fresh air. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention if symptoms occur.
- INGESTION:** Do NOT induce vomiting. Drink plenty of water. Seek medical attention immediately.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

Symptoms of overexposure to vapors include drowsiness, weakness, headache, dizziness, nausea, vomiting, dimming of vision.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

The ingestion of lubricating oils is an unlikely event. No specific therapy is indicated in view of the very low toxicity of the base oil(s) and other components. Treat with supportive measures as appropriate to the patient's condition.

SECTION 5: FIRE FIGHTING MEASURES

- EXTINGUISHING MEDIA:** Water fog. Carbon dioxide. Foam. Dry chemical product.
- UNSUITABLE MEDIA:** Use of heavy stream of water
- SPECIAL HAZARDS ARISING FROM THE CHEMICAL:** Under fire conditions, hazardous fumes will be present
- ADVICE FOR FIRE FIGHTERS:** Wear self-contained breathing apparatus, rubber boots and thick rubber gloves. Do not enter fire area without proper protective equipment, including respiratory protection. Use water spray or fog for cooling exposed containers. Avoid fire-fighting water to enter environment.

Promptly isolate the scene by removing all persons in the vicinity of the incident if there is a fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For Non-Emergency Personnel:	Evacuate unnecessary personnel.
For Emergency Responder:	Equip cleanup crew with proper protection. Wear suitable protective clothing, gloves and eye or face protection. Remove ignition sources.
Environmental Precautions:	Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Avoid release to the environment. Notify authorities if liquid enters sewers or public waters.
Methods and materials for Cleaning and containment:	Clean up any spills as soon as possible, using an absorbent material to collect it. Use suitable container.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:	Keep away from sources of ignition. No naked lights. No smoking. Use only in well ventilated areas. Avoid release to the environment. Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with soap and water before leaving work.
Conditions for safe storage Including any incompatibilities:	Store this product in a dry location where it can be protected from the elements. Store in tightly closed, properly ventilated containers away from heat, sparks, open flame, strong oxidizers, radiations and other initiators. Keep at temperature not exceeding 50°C
Specific end use:	Use only as an engine oil.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

CHEMICAL NAME	ACGIH		OSHA	
	TLV	STEL	PEL	STEL
Heavy Hydrotreated Naphthenic Distillates (Petroleum)	5mg/m3 (mist)	10mg/m3 (mist)	5mg/m3 (mist)	-

Appropriate Engineering Controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Emergency shower and eyewash station.

Environmental exposure Controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

INDIVIDUAL PROTECTION MEASURES

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before using.

Eye/Face Protection: Wear safety glasses with side shields. A face shield may be necessary under some conditions.

Body Protection: No protective equipment is needed under normal conditions. For non-routine tasks, personal protection equipment for the body should be selected based on the task being performed and the risks being involved.

Other Skin Protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

Respiratory Protection: No respiratory protection is normally required. If user operation generates an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from measured concentrations of this material. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. For air-purifying respirators, use a particular cartridge.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Property	Test	Units	Gear 150	Gear 220	Gear 320	Gear 460	Gear 460
Nature	-	-	Synthetic	Synthetic	Synthetic	Synthetic	Synthetic
Color	ASTMD1500	-	yellow	yellow	yellow	yellow	yellow
Grade	-	-	ISO 150	ISO 220	ISO 320	ISO 420	ISO 680
Viscosity @ 40° C	ASTM D445	mm ² /s	135-165	198-242	288 – 352	414 -506	612-748
Viscosity @100° C	ASTM D445	mm ² /s	20.3	23.9	38.5	50.5	67.4
Viscosity Index	ASTM D2270	-	151	140	175	179	173
Flash Point	ASTM D93	° C	>200	>200	>200	>200	>200
Pour Point	ASTM D97	° C	-33	-22	-22	-22	-36
4 ball machine — scar diameter	-	mm	0.45	0.45	0.43	0.43	0.28
welding load	-	Kg	315	315	315	315	315

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical Stability:	Stable under normal conditions
Possibility of hazardous reaction:	None under normal conditions
Conditions to avoid:	Extremely high or low temperatures
Incompatible materials:	Strong oxidizing agents
Hazardous decomposition products:	None under normal conditions

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Acute toxicity:	No specific toxicity data on this product available
Irritation:	Not expected to be irritant to eyes or skin
Sensitization:	Repeated exposure may cause sensitization due to an allergic reaction of the skin.
Repeated dose toxicity:	No data available
Carcinogenicity:	This product contains mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC.
Mutagenicity:	Not expected to be mutagenic
Reproductive toxicity:	Not expected to be toxic

Information on likely routes of exposure:

After Ingestion:	Ingestion may cause nausea, vomiting, diarrhea.
After Inhalation:	Inhalation of vapors may cause respiratory irritation.

After Skin contact:	Prolonged or repeated skin contact with the material will remove natural oils and could lead to dermatitis.
After Eye contact:	Slight eye irritant upon direct contact

Symptoms related to the physical, chemical and toxicological characteristics No adverse health effects were noted.

Delayed and immediate effects as well as chronic effects from short and long term exposure No adverse health effects were noted.

Other toxicological information No data available

SECTION 12: ECOLOGICAL INFORMATION

Toxicity:	No specific toxicity data on this product available
Persistence and degradability:	Major components are inherently biodegradable
Bioaccumulative potential:	Not determined
Mobility in soil:	It is to be expected small mobility in soil. Some or a few components may get into the soil and cause pollution of ground water. Product spreads on the water surface.
Other adverse effects:	May contaminate water supply.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods:	Dispose in a safe manner with accordance to local/national regulations.
Product waste:	Significant quantities of waste product residues should not be disposed via the sanitary sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and by-products should at all times comply with the requirements of environmental and waste disposal legislation and any regional local authority requirements. Incineration or landfill should only be considered when recycling is not feasible. Oil collection services are available for used oil recycling.

SECTION 14: TRANSPORT INFORMATION

General Information:	Petroleum Lubricating Oil – Not regulated
Special precautions for user:	Transport within user's premise. Always transport in closed containers that are upright and secure. Ensure that persons

transporting the product know what to do in an event of an accident or spillage.

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislations specific for the substance or mixture:

Australian Inventory of Chemical Substances (AICS)	All components are in compliance with chemical notification requirements in Australia
Canadian Environmental Protection Act (CEPA)	All components are in compliance with the Canadian Environmental Act and are present on the Domestic Substance List.
European Inventory of Existing Commercial Chemical Substances (EINECS)	All components listed
USA Toxic Substances Control Act (TSCA)	All components of this material are on the US TSCA Inventory or are exempt.
Chemical Safety Assessment	Not determined

SECTION 16: OTHER INFORMATION

The information and recommendations contained herein are, to the best of VKB's knowledge and belief, accurate and reliable as of the date issued. The information and recommendations offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to ensure proper health, and safety and other necessary information is included with and/or on the container.

Appropriate warnings and safe-handling procedures should be provided to handlers and users.

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